

spun 1-172 inch spoon rather well, and gives quite a respectable fight on light tackle. Some of those I hooked jumped clear of the water and ran out a nice length of line.

Some care must be taken in handling this fish as the strong spiny ray in the pectoral fin is extremely sharp and may inflict a deep and painful sting. Native fishermen invariably break it off.

Callichrous bimaculatus.

This is a common fish in many river pools around Poona and will take a fly spoon upto 1 inch with a surprisingly hard pull. Also it may be tempted with a small mahseer fly, and gives very pretty sport on light trout tackle.

I have repeatedly caught upto 2 dozen of these fish in a morning visit to a good haunt of theirs.

They do not often exceed $\frac{3}{4}$ lbs. hereabouts and are rich and very delicious table fish.

Perhaps the above will interest readers of the *Journal*.

116, KOREGAON PARK,
POONA,

M. SUTER, D. SC.

28th October, 1942.

XV.—ON THE WEED-DESTROYING HABIT OF *ETROPLUS SURATENSIS* (BLOCH).

Thomas (1887) and Sundar Raj (1916) have stated that *Etroplus suratensis* (Bloch) is essentially a herbivore. Panikkar (1920) while agreeing with this view, refers to its occasional cannibalistic tendency especially during the breeding season. In consideration of its herbivorous habit, this fish has been recommended as a suitable agent for keeping down excessive vegetation in tanks and ponds. But no attempt seems to have been made to discriminate between those species of aquatic plants it prefers and those it avoids. A number of these fish in one of our aquaria afforded me ample opportunity for observing their feeding habits and studying their preference to certain species of aquatic plants.

Blyxia roxburghi Rich., *Utricularia flexuosa*, *Otellia alismoides* Pers. and *Hydrilla verticillata* Casp. are commonly introduced into fresh water aquaria as ornamental plants, but most of these plants serve only as food for *Etroplus*. The fish shows a strong predilection for the first two species and within a few minutes of their introduction into the tanks they are 'picked' clean leaving only the stumps. In the case of *Otellia alismoides* Pers., the fish snaps off the broad leaves and then nibbles away the juicy stalks, preferably the tender portions. It does not feed on *Hydrilla verticillata* Casp. When all the above species of plants are introduced together the fish first goes in for *Blyxia roxburghi* Rich. and *Utricularia flexuosa* and only after finishing these does it turn to *Otellia alismoides* Pers. The fish often snaps at the floating remnants of its meals, a habit observed and described by Sebastian (1942) in a recent number of this *Journal*.

Other aquatic plants, such as *Elaeocharis* spp., *Chara* spp., and *Nitella* spp., were subsequently introduced into the tank. *Etioplus* was found to feed on none of them although the fry were observed to peck and nibble at the tender shoots of *Chara*. Even in the absence of other food the fish was found to avoid these plants.

Control of *Pistia* growth in tanks and ponds is a serious problem in this country. Larvae of at least three species of mansonioid mosquito, viz., *Mansonia* (*Mansonioides*) *annulifera* (Theob.), *M.* (*Mansonioides*) *uniformis* (Theob.) and *M.* (*Mansonioides*) *indiana* (Theob.), the carriers of the dreaded filariasis, are known to live attached to the roots of *Pistia stratiota* Linn. The Health Authorities are at present faced with the grave problem of removing *Pistia* from all the tanks and ponds in certain coastal districts in Central Travancore, where the percentage frequency of filariasis is rather high. To discover whether *Etioplus suratensis* (Bloch) could be of use in checking the growth of *Pistia*, a quantity of these plants were introduced into the *Etioplus* tank in the Aquarium. The fish appeared to be disturbed by the unusual appearance of the hairy roots, even when accustomed to it, avoided the plant as far as possible. Later it was ascertained that in Central Travancore *Etioplus* was common in ponds containing an abundant growth of *Pistia*. It seems that the species shows a marked aversion to some floating vegetation such as *Pistia*, *Lemna* and *Eichhornia*.

Incidentally it may be stated that *Etioplus* is known to take worms and insects and at times it shows a definite predatory tendency. Specimens of *Gambusia affinis* (Baird & Girard) introduced into the aquarium were chased and devoured by them. Whether this was due to carnivorous instincts or to the artificial conditions of life in an aquarium I am not certain. The fact remains that all the *Gambusia* were readily eaten.

MARINE BIOLOGICAL LABORATORY,
UNIVERSITY OF TRAVANCORE,
TRIVANDRUM,
3rd November, 1942.

K. GOPINATH.

XVI.—SOURCES OF FISH SUPPLY TO CALCUTTA MARKETS.

The last year for which statistics of fish imported into Calcutta are available is the year which ended on the 31st March, 1923. In that year approximately 435,194.5 maunds of fish were imported into Calcutta by railways, steamers, country boats and road. It was then stated that 'the most important sources of fish to Calcutta markets are the Padma, the Sundarbans estuaries and the Chilka in Orissa. Very large quantities of *hilsa*, carp and several other species of freshwater fishes come mostly by rail but partly by steamers from the East Bengal'. From Bulletin No. 20 of the late Department of Fisheries, Bengal (Calcutta: 1924), it is clear that the quantity of fish imported into Calcutta was showing a gradual increase for it rose from 308,037.5 maunds in 1918-19 to the figure